

ABSTRACT

A PMR write head has a stitched shield formation which results in a strong perpendicular write field with sharp vertical gradients. The shape of the stitched shield is determined by two design parameters, $d=1/2(W_{\text{SWSLE}} - W_{\text{MPTE}})$, and T_{SWS} , where W_{SWSLE} is the width of the leading edge of the stitched shield in the ABS plane, W_{MPTE} is the width of the trailing edge of the main magnetic pole in the ABS plane and T_{SWS} is the thickness of the stitched shield. By a proper choice of these parameters, the write field of the head is sharply limited in the cross-track direction, so that adjacent track erasures are eliminated.